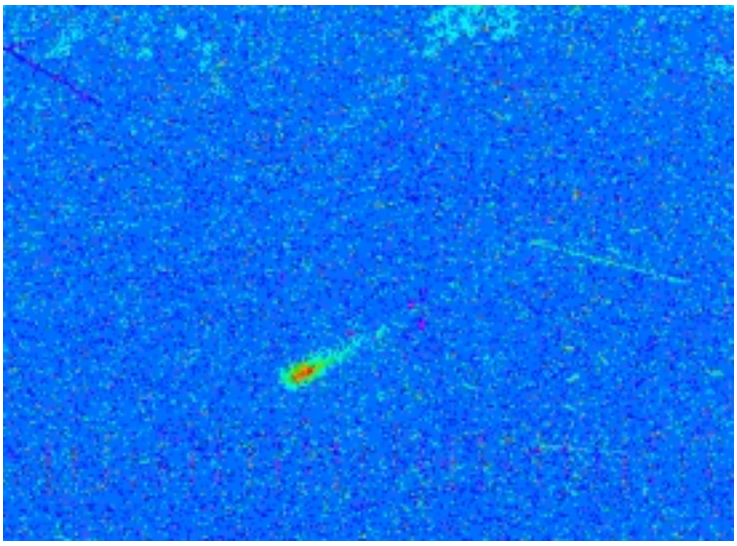
Naval Research Laboratory GIMI Instrument Makes First UV Observation of Meteor in Space

West East



View is toward North, 26˚ down from the horizontal, along the ARGOS orbit plane.

Taken by NRL's Global Imaging Monitor of the Ionosphere (GIMI) instrument in a 110-second exposure on November 18, 1999, beginning at 07:53 GMT. At the time, the GIMI camera was viewing in the aft (anti-velocity) direction with a zenith angle (at field of view center) of 116˚ (i.e., 26˚ below horizontal).

In the lower portion of the image, a diffuse blob of apparent brightness comparable to that of the upper-atmospheric UV airglow toward the top of the image, was observed. (The splotches in the upper part of the image are fixed-pattern image artifacts, which can be corrected in later image processing.) When the image was processed by subtraction of dark-current background of the CCD sensor, the image showed a definite "tail" and central streak of brightness concentration,as would be expected for a meteor entering Earth's atmosphere. In fact, the enhanced images also show a bright spot on the trail, well behind the front (left) end, which may be the result of a breakup of the meteoroid during its entry to the atmosphere.

At the time of the exposure, the ARGOS spacecraft was about 20˚ south of the equator, over the south Pacific Ocean; however, the viewing direction (and the ARGOS altitude of 833 km) was such that the meteor itself was much closer to the equator.

This false color image is companion to NRL Press Release 9-00R. A high resolution electronic version is also available in both color and greyscale. For more information, contact the NRL Public Affairs Office, 202-767-2541.